COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Valley Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Mohawk Industries Inc. – Lees Carpet Division
Rockbridge County, Virginia
Permit No. VRO80269

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Mohawk Industries, Inc. – Lees Carpet Division has applied for a Title V Operating Permit for its Glasgow, Virginia facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact: *-signature on file-* Date: 5/30/2012

Kathleen T. Haddock, P.E.
540-574-7863

Air Permit Manager: *-signature on file-* Date: 5/31/2012

Janardan R. Pandey, P.E.

FACILITY INFORMATION

Permittee

Mohawk Industries, Inc.
404 Anderson Street
Glasgow, Virginia 24555-2801

Facility

Lees Carpet Division
404 Anderson Street
Glasgow, Virginia 24555-2801

County-Plant Identification Number: 51- 163-0001

SOURCE DESCRIPTION

NAICS Code: 314110 – Carpet and Rug Mills

Mohawk Industries, Inc. – Lees Carpet Division (Mohawk) manufactures broadloom carpet and carpet tiles at the Glasgow location. Purchased synthetic fiber yarn is dyed and finished on one of three yarn dyeing lines, #1 Ilma Line (YD1), #2 Ilma Line (YD2), or the Superba Dye Lines (SL1 – SL6). After processing, the yarn is tufted to a backing. From the tufting operations, the carpet is sent to one of the backing lines: the Extruded Coat Backing Line (EC) that includes the Hot Melt Line (HM1) (broadloom), the PVC Carpet Backing Line, or the Tile Extrusion Line (TE1). These lines apply a topical solution and a backing material to the carpet that varies depending on the process used. The recently permitted Latex Pre-coat Range (LPCR-1) will eventually replace the pre-coat operations on the Hot Melt Line. The carpet is cooled, inspected, and rolled for shipment or warehousing.

The facility is a Title V major source of particulate matter (PM-10), sulfur dioxide (SO_2), nitrogen dioxide (NO_X), and volatile organic compounds (VOC). This source is located in an attainment area for all pollutants, and is a PSD major source, located approximately two kilometers from the James Riverface Wilderness Area, a federally designated Class I area. The facility is currently permitted under the following minor New Source Review and State Operating Permits:

Minor NSR Permits

February 13, 1978, as amended February 16, 1978 – install and operate a 155 Million Btu/hr coal-fired boiler (B7);

July 10, 1986, as amended June 29, 2006 and August 6, 2007 – install and operate batch yarn dyeing operations (YD, including Lanly dryer (YD4), Ilma sample line (YD3), and Pack kettles (YD5));

August 12, 2002, as amended June 29, 2006 – install and operate a Hot Melt Sample Line (HMS);

March 27, 2006 – construct and operate an extruded coat carpet backing line (EC) for the Hot Melt Line and a research and development sample hot melt extruder (HME-S). Also modify and operate the pellet 2 storage silo (Pellet 2);

April 28, 2006 – install and operate a tile extrusion line (TE1);

August 1, 2007 – modify and operate the #1 Ilma dye line (YD1);

September 4, 2007 – modify and operate the #2 Ilma dye line (YD2);

July 1, 2008, as amended October 22, 2009 – construct and operate six Superba dye lines (SL1 – SL6). Only four of these lines were constructed (SL1 – SL4);

July 30, 2009 – modify and operate a calcium carbonate storage silo (VAES);

March 24, 2011 – construct and operate a latex precoat range (LPCR-1); and

July 13, 2011 – modify and operate the PVC carpet backing line (PVC1), including storage silo (PVCS-C1), filler silo (PVCS-C2), and feed hopper (PVCS-FH).

State Operating Permit

December 2, 2009, as amended March 19, 2012 – operate two natural gas/residual oil/distillate oil-fired boilers (B5 and B6) and one coal-fired boiler (B7). Limits actual increases in emissions of sulfur dioxide, resulting from the installation of Superba dye lines (SL1 – SL4), from the boilers to below the PSD significance threshold.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit, was conducted on August 30, 2011. In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

CHANGES TO TITLE V OPERATING PERMIT

II. Emission Units

- Added amended permit date of 3/19/2012 for B5, B6, and B7.
- Removed SL5 and SL6 as these dye lines were never constructed.
- Changed Rated Capacity for PVC1 from 1800 to 2400 yd^2/hr and changed applicable permit date to 7/13/2011.
- Added Latex Precoat Range (LPCR-1).
- Moved PVC1 Oven Burners, Latex Oven Burners, and Tile Line Singer to the Insignificant Activities List.
- Deleted HM1-HOP, Pellet 3, TE1-HOP1, and TE1-HOP2. These units were never constructed.

III. Fuel Burning Equipment Requirements – B5, B6, and B7

A. Limitations

- Added SOP amendment date to affected conditions.
- Added distillate oil as approved fuel for B5 and B6.
- Added distillate oil specifications.
- Added annual usage limit for distillate oil for B5 and B6.

B. Monitoring

- Changed language in 4.a – d from "any pollutant" to "sulfur dioxide".
- Simplified sulfur dioxide emission equations and added factor for distillate oil.

D. Recordkeeping

- Added requirement for certification for coal to include method used to determine ash content of the fuel.
- Added requirements for distillate oil.

G. Hazardous Air Pollutants from Fuel Burning (New Section)

- Added general requirements from the area source Boiler MACT (40 CFR 62, Subpart JJJJJJ), including compliance dates and reporting requirements.

V. Process Equipment Requirements – Yarn Dye Lines

A. Limitations

- #1 Ilma Dye Line (YD1) – moved conditions 1.k and 2.g.requiring written operating procedures for YD1 and YD2 to condition A.5 applicable to all yarn dying equipment.
- Superba Dye Lines – removed references to SL5 and SL6 as these lines were never constructed.
- Superba Dye Lines (SL1 – SL4) – added condition 5 of Permit dated 7/1/2008, as amended 10/22/2009).
- Added condition 18 of 7/2008 Permit, as amended 10/22/2009 to condition A.5 regarding maintenance and operating procedures.

B. Monitoring

- Removed references to Superba Dye Lines SL5 and SL6.
- Emissions from the Superba Dye Lines (SL1 – SL4) to be calculated using Equations 6, 7, and 8 for average hourly, annual and weighted average determination. Deleted Equations 9, 10, and 11 as these equations were duplicates applicable only to SL1 – SL4. These equation numbers are from the 12/20/2010 significant modification.
- Added Equation 9 (as numbered in the renewal) for the calculation of total VOC emissions from the Superba Dye Lines (SL1 – SL4).

C. Recordkeeping

- Added standard language regarding annual throughput and emissions to be calculated monthly as the sum of each consecutive 12-month period to conditions 4. b, c, and e.
- Removed references to Superba Dye Lines SL5 and SL6.

E. Reporting

- Removed notification requirements for SL4. The construction notice for this line was received 11/16/2009 and the start up notice was received 6/27/2011.

VI. Process Equipment Requirements – Carpet Backing Lines

Clarified equipment list at beginning of section. Deleted all references to HM1-HOP, Pellet 3, TE1-HOP1 and TE1-HOP2. This equipment was never installed.

A. Limitations

- Removed the Calcium Carbonate Storage Silo (PVCS-C1) from the PM emission limit condition (1.a) based on the process weight rate (PWR) limit. This silo was modified under a minor NSR permit dated 7/13/2011. Removed condition 1.b. for PWR calculation for VAES and added to condition 1.a. based on process weight rate throughput and application of PM conditions.
- Added Latex Pre-coat Range (LPCR-1) to VE requirement Condition 2.b.
- Combined identical requirements under Condition 2.c where permit references were the same.
- Changed allowable throughput of plastisol for PVC1 in condition 3.a (4) from 51,328.0 tons per year to 55,188.0 tons per year per condition 10 of 7/13/2011 Permit.
- Added throughput requirements for Latex Pre-coat Range (LPCR-1 from conditions 4 and 5 of 3/24/2011 Permit.
- Updated emissions for PVC1 under condition 4.a per condition 11 of 7/13/2011 Permit.
- Added emissions for LPCr-1 under condition 4.g per condition 8 of 3/24/2011 Permit.

B. Monitoring

- Added LPCR-1 to Equation 14 for the calculation of annual VOC emissions under condition 3.
- Added LPCR-1 to condition 4.a (1) for twenty percent opacity requirement.

C. Recordkeeping

- Added requirements for LPCR-1 to condition 6 from condition 9 of 3/24/2011 Permit.
- Added references to LPCR-1 to condition 7 for General Recordkeeping Requirements for all Carpet Backing Lines.

E. Reporting

- Delete Section E. Conditions removed from minor NSR permits.

VII. Hazardous Air Pollutant Conditions – Printing, Coating, and Dyeing of Fabrics and Other Textiles

- Removed references to Superba Dye Lines SL5 and SL6.
- Added references and emission limits for LPCR-1 per 40 CFR 63, Subpart OOOO.

IX. Insignificant Emission Units

- Removed Carpet Shearing (CS) and Yarn Twisting, Coning, Knitting, etc. (YP) – no longer in use.
- Removed Fork Truck and Maintenance Tools – not required to be listed per 9 VAC 5-80-720 A.
- Removed Pellet Silos – all pellet silos on site are permitted and have minor NSR requirements.
- Moved PVC1 natural gas-fired Latex oven burners, natural gas-fired oven burners, and natural gas-fired Tile Line singer from the Emission Units table to the IA list. None of these units have minor NSR requirements and all are considered IA units per 9 VAC 5-80-720 C.
- Moved Dye Mixers from the Emission Units table to the IA list. These units have no minor NSR requirements and are considered IA units based on VOC emissions per 9 VAC 5-80-720 B.

Mohawk requested several additional units to be moved from the Emission Units table to the IA list including: two DINP Storage Tanks (DINP1 and DINP2), the VAE Latex Mixer (VAEM), the aqueous based parts washers (PWA), the Parts Washer (PW), the Waste Water Operations (WWTP), and the Self Lock Dryer (SLD). Although these units have no minor NSR requirements, they are subject to requirements under 40 CFR 63, Subpart OOOO and cannot be considered insignificant activities.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following :

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
B5	B5	Babcock and Wilcox Boiler (installed before 1972)	120 Million Btu/hr	-	-	-	12/2/09, as Amended 3/19/12
B6	B6	Babcock and Wilcox Boiler (installed before 1972)	72 Million Btu/hr	-	-	-	12/2/09, as Amended 3/19/12
B7	B7	Erie City VC Boiler (1978)	155 Million Btu/hr	Two Zurn multicyclones	B7	PM/PM-10 and Lead	12/2/09, as Amended 3/19/12, and 2/13/78 as amended 2/16/78
Coal Handling							
CH1	-	Railcar Shaker (1980)	120,000 lbs/hr	-	-	-	-
CH2	-	Coal Bucket Elevator (1980)	120,000 lbs/hr	-	-	-	-
CH3	-	Storage Pile Transfer (1980)	120,000 lbs/hr	-	-	-	-
CH4	-	Coal Storage Pile (1980)	5,000 tons	-	-	-	-
CH5	CH5	Coal Storage Silo (1980)	120,000 lbs/hr (500 tons storage)	Wet Suppression	CH5	PM/PM-10	-
Yarn Dye Lines							
YD1	YD1-1&2	#1 Ilma Line	3,900 lbs yarn/hr	-	-	-	8/1/07
	YD1-3						
YD2	YD2-S2	#2 Ilma Line	1.85 tons of dyeing solution per 1.54 tons of fabric per hour	-	-	-	9/4/07
	YD2-D1						
	YD2-D2						
YD3	YD3	Ilma Sample Line (1992)	300 lbs yarn/hr	-	-	-	7/10/86 as amended 6/29/06, 8/6/07

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
YD4	YD4	Lanly Dryer	600 lbs yarn/hr	-	-	-	7/10/86 as amended 6/29/06, 8/6/07
YD5	-	Pack Kettles (Total of 8) (1952)	2,500 lbs/hr (total)	-	-	-	7/10/86 as amended 6/29/06, 8/6/07
SL1	SYD1-BV, SYD1-PDV, SYD1-WBV, SYD1-FDV	American Superba Dye Line #1	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09
SL2	SYD2-BV SYD2-PDV, SYD2-WBV SYD2-FDV	American Superba Dye Line #2	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09
SL3	SYD3-BV, SYD3-PDV, SYD3-WBV, SYD3-FDV	American Superba Dye Line #3	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09
SL4	SYD4-BV SYD4-PDV, SYD4-WBV SYD4-FDV	American Superba Dye Line #4	300 lbs yarn/hr	--	--	--	7/1/08 as amended 10/22/09
Carpet Backing Lines							
LCS	LCS	Latex Calcium Carbonate Filler Silo (constructed before 1972)	60,000 lbs/hr	Fabric Filter	LCS	PM/PM-10	--
SBRM		SBR Latex Mixer (constructed before 1972)	-				
VAES	VAES	VAE Latex Filler Silo	130,000 lbs/hr; 9,611 TPY	Ultra Industries Fabric Filter Model #CBVC 7-36-11	VAES	PM/PM-10	7/30/09
VAEM		VAE Latex Mixer	-				

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
PVC1	PVC1	PVC Carpet Backing Line	2,400 yd^2/hr	Ceco Twin Pack Fiber Bed (Coalescing Filter)	PVC1	PM/PM-10	7/13/11
PVCS-C1	PVCS-C1	PVC Silo	60,000 lbs/hr; 42,000 TPY	Ultra Industries Fabric Filter by IMH	PVCS-C1	PM/PM-10	7/13/11
PVCS-C2	PVCS-C2	Filler Silo #2	40,000 lbs/hr	Fabric Filters	PVCS-C2	PM/PM-10	7/13/11
	PVCS-FH	PVC Filler Feed Hopper	10,000lbs/hr		PVCS-FH		
HM1	HM1-PC, HM1-MC	Hot Melt Line (installed Sept. 1975)	5,600 yd^2/hr	--	--	--	--
HMM	HMM	Two Hot Melt Tanks (installed Sept. 1975)	68,000 lbs/8 hrs total	Fabric Filter	HMM	PM/PM-10	--
	HMM-vent			--	--	--	
RHMM	RHMM	Remote Hot Melt Mix Tank (installed May 1989)	68,000lbs/24 hrs total	Walton Stout Fabric Filter	RHMM	PM/PM-10	--
	RHMM-vent			--	--	--	
HMS	HMS	Hot Melt Sample Line	1,333 yd^2/hr	--	--	--	8/12/02, as amended 6/29/06
HM1-MC	HM1-MC	Hot Melt Extruder	13,000 lbs/hr	--	--	--	3/27/06
HM1-RTD2	HM1-RTD2	Hot Melt Extruder Pellet Receiver Tank 2	45,000 lbs/hr	Fabric filter	HM1-RTD2	PM/PM-10	3/27/06
HM1-RTD3	HM1-RTD3	Hot Melt Extruder Pellet Receiver Tank 3	45,000 lbs/hr	Fabric filter	HM1-RTD3	PM/PM-10	3/27/06
Pellet 2	Pellet 2	Pellet 2 Storage Silo	110 tons	Fabric filter	Pellet 2	PM/PM-10	3/27/06
HM1-RTD4	HM1-RTD4	Trial Pellet Receiver Tank	7,000 lbs/hr	Fabric filter	HM1-RTD4	PM/PM-10	3/27/06
HME-S	HME-S	R & D Sample Hot Melt Extruder	1,000 lbs/hr	-	-	-	3/27/06

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
TE1-RC	TE1-RC	Pre-Coat Roller Station	2,400 lbs/hr	--	--	--	4/28/06
TE1-MC1	TE1-MC1	Tile Extruder Line 1	5,000 lbs/hr	--	--	--	4/28/06
TE1-MC2	TE1-MC2	Tile Extruder Line 2	8,000 lbs/hr	--	--	--	4/28/06
TE1-RTD1	TE1-RTD1	Tile Line Extruder Pellet Receiver Tank 1	45,000 lbs/hr	Fabric Filter	TE1-RTD1	PM/PM-10	4/28/06
TE1-RTD2	TE1-RTD2	Tile Line Extruder Pellet Receiver Tank 2	45,000 lbs/hr	Fabric Filter	TE1-RTD2	PM/PM-10	4/28/06
TE1-RTD3	TE1-RTD3	Tile Line Extruder Pellet Receiver Tank 3	7,000 lbs/hr	Fabric Filter	TE1-RTD3	PM/PM-10	4/28/06
TE1-RTD4	TE1-RTD4	Tile Line Extruder Pellet Receiver Tank 4	10,000 lbs/hr	Fabric Filter	TE1-RTD4	PM/PM-10	4/28/06
Pellet 4	Pellet 4	Pellet 4 Storage Silo	110 tons	Fabric Filter	Pellet 4	PM/PM-10	4/28/06
Pellet 5	Pellet 5	Pellet 5 Storage Silo	110 tons	Fabric Filter	Pellet 5	PM/PM-10	4/28/06
Pellet 6	Pellet6	Pellet 6 Storage Silo	110 tons	Fabric Filter	Pellet 6	PM/PM-10	4/28/06
TE1-T1	TE1-T1	Trial Pellet Receiver Tank 1	3,000 lbs/hr	Fabric Filter	TE1-T1	PM/PM-10	4/28/06
TE1-T2	TE1-T2	Trial Pellet Receiver Tank 2	6,000 lbs/hr	Fabric Filter	TE1-T2	PM/PM-10	4/28/06
LPCR-1	OV-1, OV-2, OV-3, OV-4, OV-5	Latex Pre-Coat Range	5,000 yd^2/hr	--	--	--	3/24/11
Miscellaneous							
PW	--	Non-aqueous Parts Washer	--	--	--	--	--
WWTP	--	Wastewater Treatment Plant	--	--	--	--	--
SLD	--	Self Lock Dryer	1.5 Million Btu/hr	--	--	--	--

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2011 annual emission update is attached (*Attachment A*). Emissions are summarized in the following tables.

2011 Actual Facility-wide Criteria Pollutant Emissions – tons/year

Pollutant	PM-10	SO_2	NO_X	CO	VOC
	20.373	87.570	65.081	24.490	4.263

2010 Facility-wide Hazardous Air Pollutant Emissions

Pollutant	Tons/yr
Hydrochloric Acid (HCl)	1.288
Vinyl Acetate (VA)	0.226

EMISSION UNIT APPLICABLE REQUIREMENTS - all condition numbers reference the applicable minor NSR or state operating permit, unless otherwise stated. Conditions cited as state level BACT in the minor NSR permit are noted as such.

Fuel Burning Equipment (B5, B6, & B7) –Boilers B5 and B6 were installed in 1972 and are not permitted under a minor NSR permit. All three boilers are limited for SO_2 emissions under a state operating permit issued December 2, 2009, as amended March 19, 2012.

Limitations

The following limitations are requirements from the minor NSR permit dated February 13, 1978, as amended February 16, 1978, as pertaining to boiler B7. A copy of the permit is attached (*Attachment B*).

Condition 1 – PM to be controlled by the use of two Zurn multicyclones.

Condition 4 – PM emissions limited to 0.28 pounds per million BTU heat input or 43.4 pounds per hour.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable to boilers B5, B6, and B7:

9 VAC 5-40-900, Existing Source Standard for Particulate Matter (ACQR 1-6)
9 VAC 5-40-910, Existing Source Emission Allocation System
9 VAC 5-40-940, Existing Source Standard for Visible Emissions
9 VAC 5-50-80, New Source Standard for Visible Emissions

Conditions have been established in the Title V permit pursuant to these Codes as summarized below:

B5 and B6

- PM emissions from B5 shall not exceed 24.8 pounds per hour.
- PM emissions from B6 shall not exceed 14.8 pounds per hour.
- Visible emissions from each of the Babcock and Wilcox boiler stacks (B5 and B6) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity.

B7

- Visible emissions from the Erie City VC boiler stack (B7) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.

Particulate Matter Emission Allocation

Particulate matter (PM) emission limits for each fuel-burning unit were allocated based on the percentage of the total rated heat input capacity from the three units for each individual unit. The maximum allowable particulate matter emissions from the fuel burning equipment were calculated as the product of the total rated heat input capacity from all three boilers and the emission ratio determined in accordance with 9 VAC 5-40-900. The allocation of the maximum allowable particulate matter emissions was determined as follows:

$$E = 1.0906H^{-0.2594}$$

Where:

E = emission limit in lbs/Million BTU
H = the total capacity of the fuel burning equipment installation in Million BTU/hr

Total capacity of boilers (H) = Boiler 5 + Boiler 6 + Boiler 7
= (120 + 72 + 155) Million BTU/hr
= 347 Million BTU/hr

Total allowable emissions = $1.0906H^{-0.2594}$ lbs/Million BTU
= $1.0906((347)^{-0.2594})$ lbs/Million BTU
= 0.23917 lbs/Million BTU

Total allowable particulate matter emissions: 0.23917 lbs/Million BTU x 347 Million BTU/hr = 83.0 lbs/hr

Allowable particulate emissions for Boiler 7 from the 2/13/1978 permit:

0.28 lbs/Million BTU x 155 Million BTU/hr = 43.4 lbs/hr

Remaining emissions for Boiler 5 and Boiler 6: (83.0 – 43.4) lbs/hr = 39.6 lbs/hr

Allocation of remaining emissions between Boiler 5 and Boiler 6:

Boiler 5: $39.6 \text{ lbs/hr} \times \frac{120 \text{ Million BTU/hr}}{(120 \text{ Million BTU/hr} + 72 \text{ Million BTU/hr})} = 24.8 \text{ lbs/hr}$

Boiler 6: $39.6 \text{ lbs/hr} \times \frac{72 \text{ Million BTU/hr}}{(120 \text{ Million BTU/hr} + 72 \text{ Million BTU/hr})} = 14.8 \text{ lbs/hr}$

The following limitations are requirements from the state operating permit (SOP) dated December 2, 2009, as amended March 19, 2012, as pertaining to boilers B5, B6, and B7. A copy of the permit is attached (*Attachment C*).

> Condition 4 – Boiler emissions (B5, B6, and B7) to be controlled by proper operation and maintenance.
>
> Condition 5 – Approved fuels for boilers B5 and B6 are natural gas, residual oil, and distillate oil.
>
> Condition 7 – Maximum sulfur content per shipment of residual oil – 2.5 percent; maximum sulfur content per shipment of distillate oil – 0.05 percent; average annual sulfur content of coal – 1.0 percent; and average annual ash content of coal – 7.0 percent.
>
> Condition 8 – Annual throughput limitations for natural gas, residual oil, distillate oil, and coal.
>
> Condition 11 – Individual annual SO_2 limits for each of B5, B6, and B7 and total annual SO_2 limit for all three boilers.

Periodic Monitoring

Compliance with the visible emission limit for the Erie City VC boiler (B7) will be demonstrated by weekly inspections of the boiler stack to determine the presence of visible emissions. If visible emissions are observed during the inspection, a visible emissions evaluation (VEE) shall be conducted in accordance with 40 CFR 60, Appendix A, Method 9. The VEE shall be conducted for a minimum of six minutes. If any of the observations exceed 20 percent opacity, the VEE shall be conducted for a total of 60 minutes.

The weekly inspections will satisfy the periodic monitoring requirement for the visible emission limitation for the boiler B7 stack. Additionally, with the proper operation of the control equipment, the emissions of particulate matter will be limited, decreasing the possibility of the presence of visible emissions.

The PM emission limits for boilers B5 and B6 were determined from the emissions allocation calculation shown above. Maximum potential PM emissions from the operation of each boiler, based on AP-42 (9/98), Table 1.3-1, are shown in the table below:

Fuel Type	Capacity of Fuel Burning Equipment (MMBtu/hr)	Maximum Hourly Throughput (gals/hr)	AP-42 Emission Factor for PM (lbs/1000 gal)	Maximum Sulfur Content (S)	Maximum Emissions of PM (lbs/hr)	Calculated PM Emission Standard (lbs/hr)
No. 6 Fuel Oil	120	800	9.19 S + 3.22	2.5	20.96	24.8
No. 6 Fuel Oil	72	480	9.19 S + 3.22	2.5	12.57	14.8

Based on the AP-42 emission factor, the maximum expected hourly particulate matter emissions from each of the boilers B5 and B6 are less than the permitted allowable hourly limit. Therefore, there is reasonable assurance that the PM emission limits for these boilers will not be violated if the fuel sulfur content limit is not exceeded and the boilers are operating properly. The permittee is required to obtain a fuel certification for each shipment of residual oil that includes the maximum sulfur content, providing further assurance that the PM hourly limit will not be violated.

Opacity has been chosen as a surrogate indicator for PM emissions. The permittee shall conduct weekly inspections of each boiler stack, B5 and B6, to determine the presence of visible emissions. If visible emissions are observed, a VEE, in accordance with 40 CFR 60, Appendix A, Method 9, shall be conducted for six minutes. If any of the observations exceed the opacity limit, the VEE shall continue until 60 minutes of observations have been completed. If the results of the VEE exceed the opacity limit, a particulate matter performance test is to be conducted within 90 days of the opacity exceedance or within one calendar year of the previous stack test, whichever occurs later, in accordance with 40 CFR 60, Appendix A, Method 5. The weekly inspections will satisfy the periodic monitoring requirement for the visible emission limitation condition of the permit.

The following equations have been established in the Title V permit in order to determine compliance with the individual and total SO_2 limits established in the SOP:

- Combined SO_2 Emissions for Boilers B5, B6 and B7:

$$ME_{B5} + ME_{B6} + ME_{B7} = ME_{SOx}$$

…… Equation 1

- SO_2 Emissions: Boiler B5

$$\frac{((EF_{RO}/1000gal)\times B) + ((EF_{NG}/10^6 cf)\times D) + ((EF_{DO}/1000gal)\times F)}{2000lb/ton} = ME_{B5}$$

..... Equation 2

- SO_2 Emissions: Boiler B6

$$\frac{((EF_{RO}/1000gal)\times C)+((EF_{NG}/10^6 cf)\times E)+((EF_{DO}/1000gal\times G)}{2000lb/ton}=ME_{B6}$$

…… Equation 3

- SO_2 Emissions: Boiler B7

$$\frac{(EF_{coal}\times A)}{2000lb/ton}=ME_{B7}$$

…… Equation 4

Where:

ME_{SOx}	=	Combined monthly SO_2 emissions for Boilers B5, B6, and B7, in tons
ME_{B5}	=	Monthly SO_2 emissions for Boiler B5, in tons
ME_{B6}	=	Monthly SO_2 emissions for Boiler B6, in tons
ME_{B7}	=	Individual SO_2 emission limit for Boiler B7, in tons
EF_{coal}	=	Emission factor for coal, in units of pounds of sulfur dioxide per ton of coal burned = 38 x S_{coal}
EF_{RO}	=	Emission factor for residual oil, in units of pounds of sulfur dioxide per 1000 gallons of residual oil burned = 157 x S_{RO}
EF_{NG}	=	Emission factor for natural gas, in units of pounds of sulfur dioxide per million cubic feet of natural gas burned = 0.6
EF_{DO}	=	Emission factor for distillate oil, in units of pounds of sulfur dioxide per 1000 gallons of distillate oil burned = 142 x S_{DO}
S_{coal}	=	Average monthly sulfur content of the coal burned, in percent
S_{RO}	=	Sulfur content of the residual oil burned, in percent

S_{DO}	=	Sulfur content of the distillate oil burned, in percent
A	=	Monthly consumption of coal for Boiler B7, in tons
B	=	Monthly consumption of residual oil for Boiler B5, in gallons
C	=	Monthly consumption of residual oil for Boiler B6, in gallons
D	=	Monthly consumption of natural gas for Boiler B5, in cubic feet
E	=	Monthly consumption of natural gas for Boiler B6, in cubic feet
F	=	Monthly consumption of distillate oil for Boiler B5, in gallons
G	=	Monthly consumption of distillate oil for Boiler B6, in gallons

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. In no event shall actual emission rates of sulfur dioxide from burning any fuel exceed those rates represented by the emission factors, given above, for each fuel.

The AP-42 emission factors used in the equations above assume that all of the sulfur in the fuel is converted to sulfur dioxide. The permittee is required to obtain a fuel certification with each shipment of residual oil and coal stating the sulfur content of the fuel. Using the equations and fuel certification information, the permittee is required to demonstrate, on a monthly basis, compliance with the annual SO_2 limit, based on a 12-month rolling sum.

Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM) as required by 40 CFR 64 is applicable to the pollutant specific emission unit (PSEU) defined as boiler B7. The emission unit meets the three criteria for CAM applicability as defined in §64.2.

(a)(1) The unit is subject to an emission limitation or standard for the applicable regulated pollutant. Boiler B7 has an hourly emission limit established for particulate matter.

(a)(2) The unit uses a control device to achieve compliance with the emissions limitation or standard. Particulate matter emissions from the boiler are controlled by two multicyclones.

(a)(3) The unit has potential pre-control emissions greater than 100 TPY for the applicable pollutant. The boiler, after controls, has the potential to emit 191 tons per year of PM. Therefore the pre-control emissions also must exceed 100 TPY.

Conditions from 40 CFR 64 have been incorporated into the permit and a CAM plan developed for the multicyclones. The CAM plan is attached (*Attachment D*).

CAM is not applicable to boilers B5 and B6 as these units do not have add-on control equipment.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. These records include fuel supplier certifications, monthly and annual fuel throughputs, monthly and annual SO_2 emissions, weekly inspections and VEE results, and scheduled and unscheduled maintenance. CAM-related recordkeeping is also required including records of monitoring and monitoring performance data, corrective actions taken and a written quality improvement plan (QIP) as necessary.

Testing

The permit requires source testing for particulate matter on Boilers B5 and B6 in the event of failure of the VEE. Additionally, the DEQ and the EPA have the authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

CAM reporting is required as part of the Title V semi-annual monitoring reports. The report is to include summary information on: (1) the number, duration, and cause of excursions or exceedance and the corrective action taken; (2) the number, duration, and cause for monitor downtime incidents; and (3) a description of the actions taken to implement a quality improvement plan (QIP) during the reporting period.

Streamlined Requirements

The following conditions in the February 13, 1978 minor NSR permit have not been included in the Title V permit:

Condition 2 – Final completion reported to be submitted within 10 days after boiler B7 is put into operation was received on May 20, 1980.

Condition 3 – The required performance testing was conducted on August 20, 1980.

Condition 5 – Average yearly ash content limited to seven percent and sulfur content not to exceed one percent. The Title V condition references the condition from the SOP.

Condition 6 – The required submittal of performance testing results within 60 days after test completion was received on September 18, 1980.

Condition 7 – Approved fuel for boiler B7 is coal. The Title V condition references the condition from the SOP.

Area Source Boiler MACT

General requirements from the area source Boiler MACT, 40 CFR 63, Subpart JJJJJJ, including compliance and reporting dates, have been added to the Title V permit. Although Mohawk is a major source for both the Title V and PSD permitting programs, synthetic minor limits for HAP were taken prior to the promulgation date of March 21, 2011 for the area source standard, as described on page 50 of this document. The three boilers, B5, B6, and B7, are affected sources under the area source MACT.

Coal Handling (CH1 – CH5):

Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-260, Existing Source Standard for Particulate Matter (AQCR 1 – 6)
9 VAC 5-50-80, New Source Standard for Visible Emissions
9 VAC 5-50-90, New Source Standard for Fugitive Dust/Emissions

Conditions have been established in the Title V permit pursuant to these Codes as summarized below:

- Particulate matter emissions from the railcar shaker (CH1), coal bucket elevator (CH2), storage pile transfer (CH3), and coal storage silo (CH5) shall not exceed the process weight limit as determined by the following equation:

$$E = 55.0P^{0.11} - 40$$

…….Equation 5

Where:

E = emission rate in lbs/hr
P = process weight rate in tons/hr

- Requirement to control the fugitive dust emissions from the railcar shaker (CH1), the coal bucket elevator (CH2), the storage pile transfer (CH3), and the coal storage pile (CH4).

- Visible fugitive emissions from CH1, CH2, CH3, and CH4 shall not exceed 20 percent opacity except during any one six-minute period in any one hour in which visible emissions shall not exceed 30 percent.

- Visible emissions from the coal storage silo stack (CH5) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity.

The following condition was established pursuant to 9 VAC 5-80-110 in order to provide assurance that the visible emission limit for the coal storage silo (CH5) is met:

- PM emissions from the coal storage silo (CH5) shall be controlled by wet suppression. The wet suppression system shall be provided with adequate access for inspection.

Monitoring and Recordkeeping

The coal conveyor feeding the coal storage silo is equipped with a wet suppression system for the control of particulate matter emissions. Due to the moisture content and low ash content of the coal, the facility is not required to operate the wet suppression system on a continuous basis. Inspection records indicated that visible emissions from the coal storage silo and conveyor are negligible. Operation of the wet suppression system is necessary only when visible emissions are present in order to maintain compliance with the opacity limit of 20 percent.

Compliance with the PM emission limit, derived from the process weight rate equation shown above, can be achieved without the operation of the wet suppression system, as indicated in the table below. The emission factor used was determined from past permitting determinations and is based on the emission factor associated with the source classification code for coal storage and handling.

Emission Unit	Maximum Hourly Throughput (tons/hr)	PM Emission Factor (lbs/ton)	Maximum PM Emission Rate (lbs/hr)	PM allowable per Process Weight Rate (lbs/hr)
Coal Storage Silo	60	0.2	12.0	46.3

Weekly inspections are to be conducted on the coal storage silo stack (CH5). The inspection shall include an observation for the presence of visible emissions. If visible emissions are observed, the permittee shall conduct a VEE in accordance with 40 CFR 60, Appendix A, Method 9 unless timely correction action is taken and the stack resumes operation with no visible emissions. The VEE is to be conducted for a minimum of six minutes. If any of the readings exceed the 20 percent opacity limit, the VEE shall be conducted for 60 minutes.

Daily inspection and maintenance activities are to be performed on CH1, CH2, CH3, and CH4. This includes inspection and maintenance of the water spray systems used to control fugitive emissions and a daily visual survey of the coal handling activities for the presence of excessive fugitive emissions. If excess fugitive emissions are observed during the survey, water or a suitable chemical treatment shall be used to minimize emissions. If water is used for control, the permittee shall take care not to create a water quality problem from surface water run-off.

The permit includes conditions for maintaining records of all emission data and operating parameters necessary to demonstrate compliance with the conditions outlined above. The records shall include:

- The pollutant-specific emission factors and equations used to demonstrate compliance with the process weight rate equation for determining particulate matter emissions; and

- Inspection records of all inspections and maintenance activities discussed above.

Compliance Assurance Monitoring (CAM)

CAM does not apply to any of the coal handling emission units because the uncontrolled particulate matter emissions from each emission unit are less than 100 tons per year.

Testing

The permit does not require source testing for the coal handling operation. The DEQ and the EPA have the authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

No specific reporting conditions have been included in the permit for the coal handling operations.

Streamlined Requirements

There are no streamlined requirements for the coal handling operations.

Yarn Dye Lines (YD1, YD2, YD, and SL1 – SL6)

Limitations

YD1 - #1 Ilma Dye Line: The following conditions are from the minor NSR permit dated 8/1/2007. Condition numbers listed reference the minor NSR permit. A copy of the permit is attached (*Attachment E*).

Condition 2. Emission Controls – VOC emissions from the carpet yarn dye are limited to 0.0005 pounds VOC per pound of yarn day as applied, calculated as a monthly weighted average. (BACT)

Condition 3. Emission Controls – VOC emissions from the carpet yarn lubricant are limited to 0.003 pounds VOC per pound of yarn lubricant as applied, calculated as a monthly weighted average. (BACT)

Condition 5. Operating Hours – YD1 shall not operate more than 7,500 hour per year, calculated ;monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months

Condition 6. Throughput – The throughput of carpet yarn dye shall not exceed 3,416,400 pounds per month.

Condition 7. Throughput – The throughput of carpet yarn dye shall not exceed 35,100,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 8. Throughput – The throughput of carpet yarn lubricant shall not exceed 284,700 pounds per month.

Condition 9. Throughput – The throughput of carpet yarn lubricant shall not exceed 2,925,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 10. Throughput – The average throughput of steam to YD1 shall not exceed 10,968 pounds per hour, calculated on a weekly basis.

Condition 11. Emission Limits – Emission from the operation of YD1 shall not exceed the limits specified below:

VOC	3.5 lbs/hr	13.2 tons/yr (BACT)

- Compliance with the emission limit will be demonstrated through compliance with the throughput limitations stated in Conditions 6, 7, and 9. (BACT)

Condition 12. Visible Emission Limit – Visible emissions from each YD1 exhaust stack (YD1-1, YD1-2, and YD1-3) shall not exceed five percent opacity as determined by 40 CFR 60, Appendix A, Method 9. (BACT)

Condition 18. Maintenance/Operating Procedures – The permittee shall develop, maintain, and have available to all operators, good written operating procedures for the operation of YD1.

YD2 - #2 Ilma Dye Line: The following conditions are from the minor NSR permit dated 9/4/2007. Condition numbers listed reference the minor NSR permit. A copy of the permit is attached (*Attachment F*).

Condition 2. Emission Controls – VOC emissions from the carpet yarn dye are limited to 0.000784 pound VOC per pound of yarn dye, as applied, calculated as a monthly weighted average. (BACT)

Condition 3. Emission Controls – VOC emissions from the carpet yarn lubricant are limited to 0.003 pound VOC per pound of yarn lubricant as applied, calculated as a monthly weighted average. (BACT)

Condition 4. Throughput – The throughput of carpet yarn dye shall not exceed 32,340,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 5. Throughput – The throughput of carpet yarn lubricant shall not exceed 2,694,374 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 6. Emission Limits – Emissions from the operation of YD2 shall not exceed the limits specified below:

VOC	3.8 lbs/hr	16.7 tons/yr

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months. (BACT)

Condition 7. Visible Emission Limit – Visible emissions from each YD2 exhaust stack (YD2-S2, YD2-D1, and YD2-D2) shall not exceed five percent opacity as determined by 40 CFR 60, Appendix A, Method 9. (BACT)

Condition 13. Maintenance/Operating Procedures – The permittee shall develop, maintain, and have available to all operators, good written operating procedures for the operation of YD2.

YD – Batch Yarn Dyeing Operations, including (YD3 – Ilma Sample Line, YD4 – Lanly Dryer, and YD5 – Pack Kettles): The following conditions are from the minor NSR permit dated 7/10/1986, as amended 6/29/2006, and 8/6/2007). Condition numbers listed reference the minor NSR permit. A copy of the permit is attached (*Attachment G*).

Condition 2. Emission Controls – VOC emissions from the carpet yarn dye are limited to 0.0012 pounds VOC per pound of yarn dye as applied, calculated as a monthly weighted average.

Condition 3. Throughput – The throughput of carpet yarn dye shall not exceed 3,000,000 pounds per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 4. Emissions Limits – Emissions from the batch yarn dyeing operations (YD) shall not exceed the limits specified below:

VOC	3.2 lbs/hr	1.8 tons/yr

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80: Existing Source Standard for Visible Emissions
9 VAC 5-50-80: New Source Standard for Visible Emissions

Conditions 5 and 6. Visible Emission Limit – Visible emissions from the Ilma sample line exhaust stack (YD3), the Lanly dryer exhaust stack (YD4) , and the pack kettles (YD5) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).

Superba Dye Lines (SL1 – SL4): The following conditions are from the minor NSR permit dated 7/1/2008, as amended 10/22/2009. Dye Lines SL5 and SL6 were never constructed. A copy of the permit is attached (*Attachment H*).

Condition 2. Emission Controls – VOC emissions from the carpet yarn dye used in SL1 – SL4 are limited to 0.000441 pounds VOC per pound of yarn dye as applied, calculated as a monthly weighted average.

Condition 3. Emission Controls – VOC emissions from the carpet yarn lubricant used in SL1 – SL4 are limited to 0.004 pounds VOC per pound of yarn lubricant as applied, calculated as a monthly weighted average.

Condition 7. Throughput – The throughput of carpet yarn dye shall not exceed 1,051,200 pounds per year per dye line (SL1 – SL4), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 8. Throughput – The throughput of carpet yarn lubricant shall not exceed 262,800 pounds per year per dye line (SL1 – SL4), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 9. Throughput – The average throughput of steam shall not exceed 2000 pounds per hour per dye line (SL1 – SL4), calculated on a weekly basis.

Condition 10. Emission Limits. Total emissions from the operation of SL1 – SL4 shall not exceed the limits specified below:

VOC	1.09 lbs/hr	4.76 tons/yr

Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 11. Visible Emission Limit – Visible emissions from each exhaust stack of the dye lines (SL1 – SL4) shall not exceed five percent opacity as determined by EPA Method 9 (reference 50 CFR 60, Appendix A).

Monitoring and Recordkeeping

All dye lines: YD1, YD2, YD, SL1 – SL4

The permit requires that VOC emissions from each of the dye lines be limited based on pounds of VOC per pound of yarn dye and per pound of yarn lubricant, as applied. The limits vary for each of the four lines. Periodic monitoring necessary to reasonably assure compliance with these requirements is accomplished by the following monitoring approach:

- The VOC content of each dye or lubricant as supplied shall be determined by the permittee or the supplier initially or when the dye or lubricant is modified or substituted using Reference Method 24 or 24A (40 CFR Part 60, Appendix A). Such content shall be used for purposes of calculating emissions, the monthly weighted average mass of VOC per mass of yarn dye as applied and the monthly weighted average mass of VOC per mass of yarn lubricant as applied.

- Each dye and lubricant as supplied whose MSDS indicates a VOC content of 100 percent by weight may be assumed to be 100 percent VOC for the purpose of calculating emissions, the monthly weighted average mass of VOC per mass of yarn dye as applied and the monthly weighted average mass of VOC per mass of yarn lubricant as applied in lieu of Reference Method 24 or 24A (40 CFR Part 60, Appendix A) testing.

- Each new dye and lubricant as supplied received after the effective date of the permit or when the dye or lubricant is modified or substituted shall be tested by the permittee or supplier within 90 days of the receipt of shipment, modification or substitution. Each dye and lubricant as supplied shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 or 24A test results.

- Until such time as testing is conducted for the purpose of calculating the monthly weighted average mass of VOC per mass of yarn dye or lubricant as applied in the #1 Ilma line (YD1), the VOC content of each dye or lubricant as supplied shall be based on formulation data as shown on the Material Safety Data Sheet (MSDS) or other vendor information. If the VOC content is given as a range, the maximum value shall be used.

These conditions provide reasonable assurance that the VOC pound per pound of yarn dye as applied limit, the VOC pound per pound of yarn lubricant as applied limit and the emission limitation will be met.

Additionally, the monthly weighted average mass of VOC per mass of yarn dye or lubricant as applied for each dye line will be determined using the following equation:

$$VOC = \frac{\sum_{i=1}^{n} W_i M_i}{\sum_{i=1}^{n} M_i}$$

…….Equation 8

Where:

VOC = the weighted average mass, in pounds, of VOC per mass, in pounds, of yarn dye or lubricant applied each calendar month

W_i = the weight fraction of VOC of each yarn dye or lubricant (i) applied during the calendar month

M_i = the total mass, in pounds, of each yarn dye or lubricant (i) applied during the calendar month

The permit requires that average hourly VOC emissions be determined in order to demonstrate compliance with the hourly emissions limits in the permit. The emissions shall be calculated on a monthly basis, for each dye line, using the equation below:

$$E_{voc} = \frac{\left(\sum_{i=1}^{n} W_{dye,i} M_{dye,i} + \sum_{i=1}^{n} W_{lub,i} M_{lub,i}\right)}{H}$$

…….Equation 6

Where:

E_{voc} = the average hourly VOC emissions in pounds per hour

$W_{dye,I}$ = the weight fraction of VOC of each yarn dye (i) applied during the calendar month

$M_{dye,I}$ = the total mass, in pounds, of each yarn dye (i) applied during the calendar month

$W_{lub,I}$ = the weight fraction of VOC of each yarn lubricant (i) applied during the calendar month

$M_{lub,I}$ = the total mass, in pounds, of each yarn lubricant (i) applied during the calendar month

H = the total number of hours of operation during the calendar month

The permittee shall determine compliance with the annual VOC emission limit for each dye line using the following equation:

$$E_{voc} = \frac{\left(\sum_{i=1}^{n} W_{dye,i} M_{dye,i} + \sum_{i=1}^{n} W_{lub,i} M_{lub,i}\right)}{2000}$$

…….Equation 7

Where:

E_{voc} = the total monthly VOC emissions in tons

$W_{dye,i}$ = the weight fraction of VOC of each yarn dye (i) applied during the calendar month

$M_{dye,i}$ = the total mass, in pounds, of each yarn dye (i) applied during the calendar month

$W_{lub,i}$ = the weight fraction of VOC of each yarn lubricant (i) applied during the calendar month

$M_{lub,i}$ = the total mass, in pounds, of each yarn lubricant (i) applied during the calendar month

Annual VOC emissions shall be calculated monthly as the sum of each consecutive 12-month period.

The permit requires that the steam lines for YD1 and SL1 – SL4 be equipped with a steam flow meter and a seven-day circular chart recorder. The steam flow meter and the seven-day circular

chart recorder measure and record, respectively, the steam throughput in pounds per hour. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the #1 Ilma line (YD1) is operating. The permittee shall determine compliance with the steam throughput limit by calculating weekly the average hourly steam throughput using the following equation:

$$STM_{avg} = \frac{\sum_{i=1}^{7} M_i}{\sum_{i=1}^{7} H_i}$$

…….Equation 10

Where:

STM_{avg} = the average hourly steam throughput in pounds per hour

M_i = the total mass, in pounds, of steam throughput during a 7-day period

H_i = the total number of hours of operation during the corresponding 7-day period

The permit requires that visible emissions inspections be conducted on the each exhaust stack for each dye line, as follows:

> At a minimum of once per week, the permittee shall determine the presence of visible emissions. If during the inspection, visible emissions are observed, visible emissions evaluation (VEE) shall be conducted in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A). The VEE shall be conducted for a minimum of six minutes. If any of the observations exceed five percent opacity, the VEE shall be conducted for a total of 60 minutes. If the 60 minutes VEE indicates a violation of the standard, corrective action shall be taken.
>
> All visible emissions inspections shall be performed when the equipment is operating.
>
> If visible emissions inspections conducted during 12 consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions inspections show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.
>
> All observations, VEE results, and corrective actions taken shall be recorded.

Compliance Assurance Monitoring

CAM does not apply to any of the yarn dye lines as none of the lines have add-on control devices.

Recordkeeping

The recordkeeping required by the minor NSR permits has been modified to meet Part 70 requirements. The permit includes requirements for maintaining records of all monitoring and testing required by the permit, including:

#1 Ilma Dye Line (YD1)

a. Weekly, monthly, and annual hours of operation. Annual hours of operations shall be calculated as the sum of each consecutive 12-month period.

b. Monthly and annual throughput of carpet yarn dye used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

c. Monthly and annual throughput of carpet yarn lubricant used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

d. Hourly throughput of process steam used (in pounds), calculated as a weekly average.

e. Hourly, monthly, and annual VOC emissions (in pounds and tons, respectively). Hourly emissions shall be calculated as a monthly average; annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

f. VOC content of each carpet yarn dye and lubricant used (in pounds per pound of yarn dye or lubricant), calculated as a monthly weighted average.

g. Material Safety Data Sheets (MSDS) or other vendor information showing VOC content, HAP content, water content, and solids content for each carpet yarn dye component and carpet yarn lubricant component.

h. Operation and control device monitoring records for the process steam flow meter(s) and seven day circular chart recorder(s).

i. Results of all stack tests, visible emission evaluations, and performance evaluations.

#2 Ilma Dye Line (YD1)

a. Monthly hours of operation.

b. Monthly and annual throughput of carpet yarn dye used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

c. Monthly and annual throughput of carpet yarn lubricant used (in pounds). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

d. Hourly, monthly, and annual VOC emissions (in pounds and tons, respectively). Hourly emissions shall be calculated as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

e. VOC content of each carpet yarn dyes and lubricants used (in pounds per pound of yarn dye or lubricant), calculated as a monthly weighted average.

f. Material Safety Data Sheets (MSDS) or other vendor information showing VOC content, HAP content, water content, and solids content for each carpet yarn dye component and carpet yarn lubricant component used.

g. Results of all visible emission evaluations.

Batch Dyeing Operations (YD): Ilma Sample Line (YD3), Lanly Dryer (YD4), and Pack Kettles (YD5)

a. Monthly hours of operation of the Lanly Dryer (YD4)

b. Monthly and annual throughput of dye (in pounds) for the Batch Yarn Dyeing Operations (YD). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

c. Hourly, monthly, and annual VOC emissions (in pounds and tons, respectively) from the Batch Yarn Dyeing Operations (YD). Hourly emissions shall be calculated as a monthly average. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

d. VOC content of each carpet yarn dye (in pound per pound of yarn dye) used in the Batch Yarn Dyeing Operations (YD), calculated as a monthly weighted average.

e. MSDS or other vendor information showing VOC content, HAP content, water content, and solids content for each dye component used in the Batch Yarn Dyeing Operations (YD).

f. Results of all visible emission evaluations.

Superba Dye Lines (SL1 – SL4)

a. Monthly hours of operation of each Superba Dye Line (SL1 – SL4)

b. Monthly and annual throughput of carpet yarn dye (in pounds) used in each Superba Dye Line (SL1 – SL4). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

c. Monthly and annual throughput of carpet yarn lubricant (in pounds) used in each Superba Dye Line (SL1 – SL4). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

d. Hourly VOC emissions (in pounds) from each Superba Dye Line (SL1 – SL4), calculated as a monthly average.

e. Monthly and annual VOC emissions (in tons) from each Superba Dye Line (SL1 – SL4). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

f. VOC content of carpet yarn dyes used in the Superba Dye Lines (SL1 – SL4) (in pounds per pound of yarn dye), calculated as a monthly weighted average

g. VOC content of carpet yarn lubricant used in the Superba Dye Lines (SL1 – SL4) (in pounds per pound of yarn lubricant), calculated as a monthly weighted average.

h. Material Safety Data Sheet (MSDS) or other vendor information showing VOC content, hazardous air pollutant (HAP) content, water content, and solids content for each carpet yarn dye component and carpet yarn lubricant component.

i. Operation and monitoring records for the Superba Dye Lines (SL1 – SL4), the process steam flow meters, and the seven-day circular chart recorders.

j. Scheduled and unscheduled maintenance and operator training for the Superba Dye Lines (SL1 – SL4).

k. Results of all visible emission evaluations.

Testing

The permit requires that emissions testing be allowed at any time using appropriate methods and that the facility shall provide the appropriate location to conduct such testing.

Reporting

The permit requires no reporting specific to the dyeing operations.

Streamlined Conditions

There are no streamline conditions for the sections of the permit pertaining to the yarn dye lines.

Carpet Backing Lines

Latex Calcium Carbonate Filler Silo (LCS) and VAE Latex Filler Silo (VAES), including SBR Latex Mixer (SBRM), and VAE Latex Mixer (VAEM);

PVC Carpet Backing Line (PVC1), including PVC1 Calcium Carbonate Storage Silo (PVCS-C1), Filler Storage Silo (PVCS-C2), and PVC1 Feed Hopper (PVCS-FH);

Latex Pre-Coat Range (LPCR-1);

Hot Melt Line (HM1), including Storage Silo (Pellet1), Hot Melt Mix Tanks (HMM), Remote Hot Melt Mix Tank (RHMM), and Hot Melt Sample Line Stack (HMS);

Extruded Coat Carpet Backing Line (EC), including Hot Melt Extruder (HM1-MC), Hot Melt Extrude Pellet Receiver Tanks (HM1-RTD2 and HM1-RTD3), Pellet Storage Silo (Pellet 2), Trial Pellet Receiver Tank (HMI-RTD4), and R&D Sample Hot Melt Extruder (HME-S); and

Tile Extrusion Line (TE1) including Pre-Coat Roller Coater Station (TE1-RC), Tile Line Extruders (TE1-MC1 and TE1-MC2), Tile Line Extruder Pellet Receiver Tanks (TE1-RTD1 through TE1-RTD4), Trial Pellet Receiver Tanks (TE1-T1 and TE1-T2), and Pellet Storage Silos (Pellet 4 through Pellet 6).

Limitations

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80 Existing Source Standard for Visible Emissions
9 VAC 5-40-260 Existing Source Standard for Particulate Matter (AQCR 1-6)
9 VAC 5-50-80 New Source Standard for Visible Emissions

The following conditions were established in the Title V permit pursuant to these codes:

Condition VI.A.1.a. PM emissions from LCS, HMM, and RHMM shall not exceed the process weight limit as determined by the equation $E = 4.10P^{0.67}$, where E is the emission limit in lbs/hr and P is the process weight rate in tons/hr.

Condition VI.A.2.a. Visible emissions from the LCS stack shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent.

Condition VI.A.2.b. Visible emissions from the following sources shall not exceed 20 percent except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity:

(1) Hot Melt Line Stacks (HM1-PCand HM1-MC)
(2) Hot Melt Sample Line Stack (HMS).
(3) Hot Melt Mix Tanks Vent (HMM-vent).

(4) Remote Hot Melt Mix Tank Vent (RHMM-vent).
(5) Hot Melt Mix Tanks filler line cyclone exhaust stack (HMM).
(6) Remote Hot Melt Mix Tank filler line cyclone exhaust stack (RHMM).
(7) Latex Precoat Range (LPCR-1)

VAES – Calcium Carbonate Storage Silo: The following conditions are from the minor NSR permit dated 7/30/2009. Condition numbers listed reference the minor NSR permit. A copy of the permit is attached (*Attachment I*).

Condition 2. Emission Controls – PM emissions from the filling of the silo and the return air from the transfer of filler to the VAE Latex Mixer (VAEM) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the filling and transfer processes are operating.

Condition 6. Throughput – The throughput of calcium carbonate shall not exceed 130,000 pounds per day, calculated as the sum of each consecutive 24-hour period.

Condition 7. Throughput – The throughput of calcium carbonate shall not exceed 9,611 tons per year, calculated monthly as the sum of each consecutive 12-month period.

Condition 8. Visible Emission Limit – Visible emissions from the VAES fabric filter exhaust shall not exceed five percent opacity as determined by EPA Method 9. This condition applies at all times except during startup, shutdown, and malfunction.

PVC1 – PVC Carpet Backing Line: The following conditions are from the minor NSR permit dated 7/13/2011. Condition numbers listed reference the minor NSR permit. A copy of the permit is attached (*Attachment J*).

Condition 2. Emission Controls – PM emissions from PVC1 shall be controlled by a coalescing filter. The coalescing filter shall be provided with adequate access for inspection and shall be in operation when PVC1 is operating.

Condition 3. Emission Controls – PM emissions from PVCS-C1, PVCS-C2, and PVCS-FH shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection and shall be in operation when the equipment is operating.

Condition 7. Processing – PVCS-C1 and PVCS-C2 shall process no more than 120.0 tons/day, total, calculated daily.

Condition 8. Processing – PVCS-C1 and PVCS-C2 shall process no more than 42,000.0 tons/year, total, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 9. Throughput – The throughput of plastisol formula to the PVC1 shall not exceed 283.5 tons/day, calculated daily.

Condition 10. Throughput – The throughput of plastisol formula to PVC1 shall not exceed 55,188.0 tons/year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 11. Process Emission Limits – Emissions from the operation of PVC1 shall not exceed the limits specified below:

PM	0.35 lbs/hr	1.52 tons/yr
PM-10	0.35 lbs/hr	1.52 tons/yr
VOC	1.29 lbs/hr	5.63 tons/yr

Condition 12. Visible Emission Limit – Visible emissions from PVC1 shall not exceed five percent opacity as determined by EPA Method 9. This condition applies at all times except during startup, shutdown, and malfunction.

Condition 13. Visible Emission Limit – Visible emissions from PVCS-C1, PVCS-C2, and PVCS-FH shall not exceed five percent opacity as determined by EPA Method 9. This condition applies at all times except during startup, shutdown, and malfunction.

LPCR-1 – Latex Pre-coat Range: The following conditions are from the minor NSR permit dated 3/24/2011. Condition numbers listed reference the minor NSR permit. A copy of the permit is attached (*Attachment K*).

Condition 4. Throughput – The throughput of VOC for latex mix used on LPCR-1 shall not exceed 24.3 tons/yr, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 5. Throughput – The throughput of VOC for topical mix on LPCR-1 shall not exceed 4.6 tons per year, calculated monthly as the sum of each consecutive 12-mont period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 7. Process Emission Limits – Emissions of organic HAP from LPCR-1 shall not exceed 0.08 kilograms per kilogram of solids applied, calculated as a rolling 12-month average emission rate.

Condition 8. Process Emission Limits – Emission from LPCR-1 shall not exceed the limits specified below:

VOC	6.6 lbs/hr	28.9 tons/yr

HM1 – Hot Melt Line: The following conditions are from the minor NSR permit dated 3/12/2002, as amended 6/29/2006. Conditions from this permit apply only to the Hot Melt Sample Line (HMS). Condition numbers reference the minor NSR permit. A copy of the permit is attached (*Attachment L*).

Condition 3. Throughput – The throughput of VOC in the materials used in HMS shall not exceed 8.6 tons per year, calculated monthly as the sum of each consecutive 12-month period.

Condition 4. Emission Limits – VOC emissions from the operation of HMS shall not exceed 8.6 tons per year, calculated monthly as the sum of each consecutive 12-month period.

EC – Extruded Coat Carpet Backing Line: The following conditions are from the minor NSR permit dated 3/27/2006. Conditions numbers reference the minor NSR permit. A copy of the permit is attached (*Attachment M*). Note that HM1-HOP and Pellet 3 were never constructed; therefore, the applicable minor NSR conditions are not included below.

Condition 2. Emission Controls – PM emissions from HM1-RTD2, HM1-RTD3, Pellet 2, and HM1-RTD4 shall each be controlled by a fabric filter. Each fabric filter shall be provided with adequate access for inspection and shall be in operation when the corresponding equipment for the pre-blended pellets is operating.

Condition 3. Fugitive Emission Controls – Fugitive PM emissions from the handling and transfer of pre-blended pellets shall be controlled by enclosure.

Condition 5. Throughput – The throughput of pre-blended pellets for EC shall not exceed 126.0 tons per day, calculated daily.

Condition 6. Throughput – The throughput of pre-blended pellets for EC shall not exceed 43,506.5 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 7. Throughput – The throughput of pre-blended pellets for HME-S shall not exceed 1,000.0 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 8. Process Emission Limits – VOC emissions from the operation of EC shall not exceed 9.57 tons per year, calculated monthly as the sum of each consecutive 12-month period.

Condition 9. Visible Emission Limit – Visible emissions from each fabric filter for HM1-RTD2, HM1-RTD3, Pellet 2, and HM1-RTD4 shall not exceed five percent opacity as

determined by EPA Method 9. This condition applies at all times except during start-up, shutdown, and malfunction.

Condition 10. Visible Emission Limit – Visible emissions from HM1-MC and HME-S shall not exceed five percent opacity as determined by EPA Method 9. This condition applies at all times except during start-up shutdown and malfunction.

Condition 11. Visible Emission Limit – Visible fugitive emissions resulting from the handling and transfer of pre-blended pellets shall not exceed 10 percent opacity as determined by EPA Method 9. This condition applies at all times except during start-up, shutdown, and malfunction.

TE1 – Tile Extrusion Line: The following conditions are from the minor NSR permit dated 4/28/2006. Conditions numbers reference the minor NSR permit. A copy of the permit is attached (*Attachment N*). Note that TE1-HOP1 and TE1-HOP2 were never constructed; therefore, the applicable minor NSR conditions are not included below.

Condition 2. Emission Controls – PM emissions from TE1-RTD1 – TE1-RTD4, Pellet 4 – Pellet 6, TE1-T1, and TE1-T2 shall be controlled by a fabric filter. Each fabric filter shall be provided with adequate access for inspection and shall be in operation when the corresponding equipment for the pre-blended pellets is operating.

Condition 3. Fugitive Emission Controls – Fugitive PM emissions from the handling and transfer of pre-blended pellets shall be controlled by enclosure.

Condition 5. Throughput – The throughput of pre-coat resin for TE1-RC shall not exceed 10,512 tons per year, calculated monthly as the sum of each consecutive 12-mont period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 6. Throughput – The throughput of pre-blended pellets for TE1-MC1 shall not exceed 60.0 tons per day, calculated daily.

Condition 7. Throughput – The throughput of pre-blended pellets for TE1-MC2 shall not exceed 96.0 tons per day, calculated daily.

Condition 8. Throughput – The throughput of pre-blended pellets for TE1-MC1 shall not exceed 21,900 tons per year, calculated monthly as the sum of each consecutive 12-mont period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 9. Throughput – The throughput of pre-blended pellets for TE1-MC2 shall not exceed 35,040 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by

adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

Condition 10. Process Emission Limits – VOC emissions from the operation of TE1-RC shall not exceed 9.46 tons per year, calculated monthly as the sum of each consecutive 12-month period.

Condition 11. Process Emission Limits – VOC emissions from the operation of TE1-MC1 shall not exceed 5.40 tons per year, calculated monthly as the sum of each consecutive 12-month period.

Condition 12. Process Emission Limits – VOC emissions from the operation of TE1-MC2 shall not exceed 8.65 tons per, calculated monthly as the sum of each consecutive 12-month period.

Condition 13. Visible Emission Limit – Visible emissions from TE1-RTD1 – TE1-RTD4, Pellet 4 – Pellet, TE1-T1 and TE1-T2 shall not exceed five percent opacity as determined by EPA Method 9. This condition applies at all times except during start-up, shutdown, and malfunction.

Condition 14. Visible Emission Limit – Visible emissions from TE1-MC1 and TE1-MC2 shall not exceed five percent opacity as determined by EPA Method 9. This condition applies at all times except during start-up, shutdown, and malfunction.

Condition 15. Visible Fugitive Emission Limit – Visible fugitive emissions from the handling and transfer of pre-blended pellets shall not exceed 10 percent opacity as determined by EPA Method 9. This condition applies at all times except during start-up, shutdown, and malfunction.

Monitoring

The permit requires the following equipment to be equipped with a device to continuously measure the differential pressure drop across the fabric filter or coalescing filter, as applicable. The device shall be installed, calibrated, and operated in accordance with approved procedures. Each monitor shall be installed in an accessible location and shall be maintained by the permittee such that it is in proper working order at all times. To ensure good performance, the control device used to continuously measure the differential pressure drop shall be observed by the permittee with a frequency of not less than once per week. All readings shall be recorded.

- Latex Calcium Carbonate Filler Silo (LCS)
- Hot Melt Mix Tanks Filler Line Cyclone Exhaust (HMM)
- Remote Hot Melt Mix Tank Filler Line Cyclone Exhaust (RHMM)
- VAE Latex Filler Silo (VAES)
- PVC Carpet Backing Line (PVC1) – coalescing filter
- Calcium Carbonate Storage Silo (PVCS-C1)

- Filler Storage Silo (PVCS-C2)
- Feed Hopper (PVCS-FH)
- Hot Melt Extruder Pellet Receiver Tanks (HM1-RTD2 and –RTD3)
- Pellet 2 Storage Silo
- Trial Pellet Receiver Tank (HM1-RTD4)
- Tile Line Extruder Pellet Receiver Tanks (TE1-RTD1 through –RTD4)
- Pellet Storage Silos 4 - 6

The stacks for the hot melt mix tanks (HMM) and the remote hot melt mix tank (RHMM) are uncontrolled vents (HMM-vent and RHMM-vent, respectively) used for air displacement during material feeding of the tanks. The material is fed to these tanks via filler lines by cyclone separators whose exhaust is controlled by fabric filters. A control device is not required for the tank vents because compliance with the process weight rate particulate emissions limit and visible emission requirement can be achieved without a control device.

Emission Unit	Pollutant	Process Rate (lb/hr)[1]	PWR Limitation [2]	Maximum Emission Rate (lbs/hr) [3]
HMM-vent (2)	PM/PM-10	8,500	10.8 (total)	3.06 (total)
RHMM-vent	PM/PM-10	2,833	5.18	1.02

1. Process Rate is the manufacturer's maximum rated capacity.
2. Process Weight Rate (PWR) Limitation calculated using the equation provided in 9 VAC 5-40-260 C
   $E = 4.10P^{0.67}$, where P = process weight rate (tons/hr) and E = emission rate (lb/hr)
3. Maximum Emission rate calculated using AP-42 (6/06), Table 11.12-2, SCC 3-05-011-07). This emission factor (0.72lbs PM/ton material) has historically been used by Mohawk and DEQ to determine PM emissions from these sources.

The permit requires operation of a fabric filter for the VAE latex filler silo (VAES), latex calcium carbonate filler silo (LCS), calcium carbonate storage silo (PVCS-C1), Filler Silo No. 2 (PVCS-C2), Feed Hopper (PVCS-FH), hot melt mix tanks filler line cyclone exhaust (HMM), and remote hot melt mix tank filler line cyclone exhaust (RHMM) to demonstrate compliance with the particulate matter and visible emission requirements. Therefore, a properly operating fabric filter can achieve compliance with the process weight rate particulate emissions limit.

Emission Unit	Pollutant	Process Rate (lb/hr)[1]	PWR Limitation [2]	Maximum Emission Rate (lbs/hr) [3]
LCS	PM/PM-10	60,000	40.0	0.216
VAES	PM/PM-10	130,000	47.1	0.468
HMM (2)	PM/PM-10	8,500	10.8	0.0306
RHMM	PM/PM-10	2,833	5.18	0.0102
PVCS-C1	PM/PM-10	60,000	40.0	0.216
PVCS-C2	PM/PM-10	40,000	30.5	0.144
PVCS-FH	PM/PM-10	10,000	12.1	0.036

1. Process Rate is the manufacturer's maximum rated capacity.
2. Process Weight Rate (PWR) Limitation calculated using the equation provided in 9 VAC 5-40-260 C and D

   $E = 4.10P^{0.67}$, where P = process weight rate (tons/hr) and E = emission rate (lb/hr) for processes up to 60,000 lbs/hr;
   $E = 55.0P^{0.11} - 40$, where P = process weight rate (tons/hr) and E – emission rate (lb/hr) for processes greater than 60,000 lbs/hr

3. Maximum Emission rate calculated using AP-42 (6/06), Table 11.12-2, SCC 3-05-011-07) and includes the use of a fabric filter with a 99% control efficiency. This emission factor (0.72 lbs PM/ton material) has historically been used by Mohawk and DEQ to determine PM emissions from these sources.

Proper operation and maintenance of the fabric filters shall provide reasonable assurance that compliance with the 20 percent opacity limit for the following sources will be achieved:

- Latex Calcium Carbonate Filler Silo (LCS)
- Hot Melt Mix Tanks Filler Line Cyclone Exhaust (HMM)
- Remote Hot Melt Mix Tank Filler Line Cyclone Exhaust (RHMM)

Proper operation and maintenance of the fabric filters and coalescing filter (PVC1) shall provide reasonable assurance that compliance with the five percent opacity limit for the following sources will be achieved:

- VAE Latex Filler Silo (VAES)
- PVC Carpet Backing Line (PVC1) (coalescing filter)
- Calcium Carbonate Storage Silo (PVC1-C1)
- Filler Storage Silo (PVCS-C2)
- Feed Hopper (PVCS-FH)
- Hot Melt Extruder Pellet Receiver Tanks (HM1-RTD2 and HM1-RTD3)
- Hot Melt Line Trial Pellet Receiver Tank (HM1-RTD4)
- Pellet Storage Silo (Pellet 2)
- Tile Line Extruder Pellet Receiver Tanks (TE1-RTD1. –RTD2. –RTD3. And –RTD4)
- Tile Line Trial Pellet Receiver Tanks (TE1-T1 and TE1-T2)
- Pellet Storage Silos (Pellet 4, Pellet 5, and Pellet 6)

If visible emissions are seen from any of the fabric filter stacks it can be reasonably assumed that there is a problem with that fabric filter. The permit contains a requirement for the permittee to perform a tiered periodic monitoring approach for conducting visible emissions inspections for the sources:

- The permittee will be required to initially conduct a weekly inspection of each stack. Each inspection shall include an observation of the presence of visible emissions and the pressure drop across each fabric filter. If during the inspection visible emissions are observed, a visible emission evaluation (VEE) shall be conducted in accordance with 40 CFR Part 60, Appendix A, EPA Method 9, unless corrective action is taken such that the stack resumes operation with no visible emissions. The VEE shall be conducted for a minimum of six minutes. If any of the observations exceed the applicable opacity limit, the VEE shall be conducted for a total of 60 minutes. If 12 consecutive weekly inspections are performed on any given stack and no visible emissions are present, then the inspections for that stack may be reduced to once per week. However, as soon as visible emissions are noted during a weekly inspection, or when requested by DEQ, the inspections must then be performed weekly for that stack.

Visible emissions have been selected as the indicator because they are indicative of good operation and maintenance of a fabric filter and coalescing filter. If the fabric filter or coalescing filter is not functioning properly, visible emissions will be present and there is a chance that the permittee is in danger of not meeting the process weight rate particulate emissions limit. Therefore, visible emissions are an acceptable performance indicator.

The tiered approach for inspections will satisfy the periodic monitoring requirement for the visible emission limitations. The required frequency of checks for visible emissions will limit malfunctions of the control equipment. As long as the control equipment is operating properly, there is little likelihood of violating the visible emission limitation. The control equipment will limit the amount of particulates that are emitted thereby limiting visible emissions.
The hot melt line (HM1), hot melt sample line (HMS), and Latex Pre-coat Range (LPCR-1) involve the application of a hot melt pre-coat and main coat directly to the back of the carpet. Only VOC are emitted during this process. Due to the fact that no particulate emissions are expected, no visible emissions are expected. Therefore, there is little likelihood that the visible emission standard will ever be violated. As a result, no periodic monitoring is required for visible emissions from the stacks for these processes.

The permittee shall determine compliance with the hourly particulate matter emission limit for the PVC carpet backing line (PVC1) by calculating daily the average hourly emissions using the following equation:

$$E_{PM} = \left(\frac{M \times EF_{plast}}{H} \right) \left(\frac{100 - CE_{cf}}{100} \right)$$

…….Equation 12

Where:

E_{PM} = the daily average hourly particulate matter emissions in pounds per hour

M = the total throughput of plastisol formula, in pounds, used in the PVC carpet backing line during the calendar day

H =the total number of hours of operation for the PVC carpet backing line during the calendar day

EF_{plast} =the DEQ-approved emission factor in pounds of particulate per pound of plastisol

CE_{cf} =control efficiency of the coalescing filter

The permittee shall determine compliance with the annual particulate matter emission limit for the PVC carpet backing line (PVC1) by calculating the monthly emissions using the following equation:

$$E_{PM} = \left(\frac{M \times EF_{plast}}{2000} \right) \left(\frac{100 - CE_{cf}}{100} \right)$$

…….Equation 13

Where:

E_{PM} = the monthly particulate matter emissions in tons

M = the total throughput of plastisol formula, in pounds, used in the PVC carpet backing line during the calendar month

EF_{plast} = the DEQ-approved emission factor in pounds of particulate per pound of plastisol

CE_{cf} =control efficiency of the coalescing filter

Annual particulate matter emissions shall be calculated monthly as the sum of each consecutive 12-month period.

The permittee shall determine compliance with the annual VOC emission limit for PVC1, HMS, EC, TE1-RC, TE1-MC1, TE1-MC2, and LPCR-1 by calculating the monthly emissions for each source using the following equation:

$$E_{voc} = \frac{\sum_{i=1}^{n} W_i M_i}{2000}$$

…….Equation 14

Where:

E_{voc} = the total monthly VOC emissions in tons

W_i = the weight fraction of VOC of each material (i) applied during the calendar month

M_i = the total mass, in pounds, of each material (i) applied during the calendar month

Annual VOC emissions shall be calculated monthly as the sum of each consecutive 12-month period.

Compliance Assurance Monitoring

Compliance Assurance Monitoring (CAM) as required by 40 CFR 64 is not applicable to any of the pollutant specific emission units (PSEU) used in the Carpet Backing Lines. None of the emission units meets all three of the criteria necessary for CAM applicability as defined in §64.2.

(a)(1) The unit is subject to an emission limitation or standard for the applicable regulated pollutant. All units have hourly and annual emission rates for particulate matter.

(a)(2) The unit uses a control device to achieve compliance with the emissions limitation or standard. Particulate matter emissions from the processes are controlled by fabric filters or a coalescing filter

(a)(3) The unit has potential pre-control emissions greater than 100 TPY for the applicable pollutant. The pre-control emissions of PM from each of the sources do not exceed 100 TPY.

Because all three criteria are not met, CAM is not applicable to the fabric filters and coalescing filter used on the Carpet Backing Lines.

Recordkeeping

The recordkeeping required by the minor NSR permits has been modified to meet Part 70 requirements. The permit includes requirements for maintaining records of all monitoring and testing required by the permit, including:

VAES: Daily and annual throughput of calcium carbonate for the VAE filler silo (VAES). Daily throughput shall be calculated daily as the sum of each consecutive 24-hour period. Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.

PVC Carpet Backing Line (PVC1)

a. Daily hours of operation of the PVC carpet backing line (PVC1).

b. Daily throughput of plastisol formula (in tons) used in the PVC carpet backing line (PVC1).

c. Daily throughput of latex formula (in tons) used in the PVC carpet backing line (PVC1).

d. Annual throughput of plastisol formula (in tons) used in the PVC carpet backing line (PVC1), calculated monthly as the sum of each consecutive 12-month period.

e. Hourly PM, PM-10, and VOC emissions (in pounds) from the PVC carpet backing line (PVC1), calculated as a daily average.

f. Annual PM, PM-10 and VOC emissions (in tons) from the PVC carpet backing line (PVC1), calculated as the sum of each consecutive 12-month period.

g. Total daily throughput of calcium carbonate (in tons) to the calcium carbonate storage silo (PVCS-C1) and filler material to the filler silo (PVCS-C2), calculated daily.

h. Total annual throughput of calcium carbonate (in tons) to the calcium carbonate storage silo (PVCS-C1) and filler material to the filler silo (PVCS-C2), calculated monthly as the sum of each consecutive 12-month period.

Hot Melt Sample Line (HMS)

a. Monthly and annual throughput of VOC (in tons) in the materials used in the hot melt sample line (HMS). Annual throughput shall be calculated as the sum of each consecutive 12-month period.

b. Monthly and annual VOC emission (in tons) from HMS. Annual throughput shall be calculated as the sum of each consecutive 12-month period.

Extruded Coat Backing Line (EC), including R&D Sample Hot Melt Extruder (HME-S)

a. Daily hours of operation of the extruded coat (EC) carpet backing line.

b. Daily throughput of pre-blended pellets (in tons) (EC).

c. Annual throughput of pre-blended pellets (in tons) (EC), calculated monthly as the sum of each consecutive 12-month period.

d. Monthly and annual VOC emissions (in tons) (EC). Annual emissions shall be calculated monthly as the sum of each consecutive 12-mont period.

e. Annual throughput of pre-blended pellets (in tons) for the R&D sample hot melt extruder (HME-S), calculated monthly as the sum of each consecutive 12-month period;

f. Monthly and annual VOC emissions (in tons) from HME-S. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

Tile Extrusion Line (TE1)

a. Daily hours of operation of TE1.

b. Daily throughput of pre-blended pellets (in tons) for each tile line extruder (TE1-MC1 and TE1-MC2).

c. Annual throughput of pre-coat resin (in tons) for the pre-coat roller coater station (TE1-RC), calculated monthly as the sum of each consecutive 12-month period.

d. Annual throughput of pre-blended pellets (in tons) for each tile line extruder (TE1-MC1 and TE1-MC2), calculated monthly as the sum of each consecutive 12-month period.

e. Monthly and annual VOC emissions (in tons) for the pre-coat roller station (TE1-RC). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

f. Monthly and annual VOC emissions (in tons) from each tile line extruder (TE1-MC1 and TE1-MC2). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.

Latex Pre-coat Range (LPCR-1)

a. Annual throughput of VOC used for latex mix, calculated monthly as the sum of each consecutive 12-month period.

b. Annual throughput of VOC used for topical mix, calculated monthly as the sum of each consecutive 12-month period.

c. Annual emission calculations for VOC from LPCR-1 using the calculation methods submitted with application dated February 3, 2011, calculated monthly as the sum of each consecutive 12-month period.

General Recordkeeping Requirements applicable to all Carpet Backing Lines

a. Air pollution control equipment training provided

b. MSDS or other vendor information showing VOC content, HAP content, water content, and solids content for each component of the following materials:

(1) Plastisol formula

(2) Latex formula

(3) Materials used on the Hot Melt Sample Line (HMS)

(4) Pre-blended Pellets

(5) Pre-coat Resin

(6) Material stored in the filler silo (PVCS-C2)

(7) Latex mix (LPCR-1)

(8) Topical mix (LPCR-1)

c. Scheduled and non-scheduled maintenance;

d. Operator Training;

e. Results of all visible emissions evaluations;

f. Inspection records;

g. DEQ-approved, pollutant-specific emission factors and the equations used to demonstrate compliance; and

h. Operation and control device monitoring records for the differential pressure drop gauge.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five years.

Testing

The permit requires that emissions testing be allowed at any time using appropriate methods and that the facility shall provide the appropriate location to conduct such testing.

Reporting

The permit requires no reporting specific to the carpet backing operations.

Streamlined Conditions

The visible emission limitation in 9 VAC 5-50-80 (New Source Standard for Visible Emissions) has not been included for the VAE latex filler silo (VAES), calcium carbonate storage silo (PVCS-C1) and the PVC carpet backing line (PVC1) because the permit limit of five percent opacity is more stringent than the regulatory limit of 20 percent opacity, including one six-minute period in any one hour not to exceed 30 percent opacity.

Condition 19 of the 4/28/2006 Permit was not included as the notifications for the construction and start up of the Tile Extrusion Line (TE1) were received on 5/26/2006 and 5/1/2007.

Condition 15 of the 3/27/2006 Permit was not included as the notifications for: the construction and start-up of the Extruded Coat Carpet Backing Line (EC) were received on 5/4/2006 and 5/1/2007; the construction and start-up R&D Hot Melt Extruder (HME-S) were received on 7/19/2006 and 10/2/2006; and the modification and start-up of Pellet 2 Storage Silo (Pellet 2) were received on 10/11/2006 and 7/9/2007.

Condition 10 of the 3/24/2011 Permit was not included as the notification for the construction and start-up of the Latex Pre-coat Range (LPCR-1) was received on August 10, 2011.

Hazardous Air Pollutant Conditions – Printing, Coating, and Dyeing of Fabrics and Other Textiles

The compliance date for 40 CFR Part 63, Subpart OOOO - National Emission Standards for Hazardous Air Pollutants: Printing, Coating, and Dyeing of Fabrics and Other Textiles (Textile MACT), was May 29, 2006. Since the facility did not obtain federally enforceable limits on its facility-wide emissions of hazardous air pollutants (HAPs) to below major-source thresholds prior to this date, it is subject to the Textile MACT.

Limitations

The following conditions are the applicable Textile MACT limitations for the facility's operations: organic HAP emission limitations for the facility's operations:

Condition VII.A.1: Organic hazardous air pollutant (HAP) emissions from the facility shall not exceed the following limits:

- For web coating and printing operations, organic HAP emissions to the atmosphere are limited to 0.12 kilogram (kg) of organic HAP per kg of solids applied.
- For dyeing and finishing operations, organic HAP emissions to the atmosphere are limited to 0.016 kilogram (kg) of organic HAP per kg of dyeing and finishing materials applied.
- For the Latex Pre-coat Range (LPCR-1), organic HAP emissions to the atmosphere are limited to 0.08 kg of organic HAP per kg of solids applied, calculated as a rolling 12-month average emissions rate.

Condition VII.A.2: The permittee shall meet the following operation and maintenance requirements:

- At all times, including periods of startup, shutdown, and malfunction, the permittee shall operate and maintain the facility, including associated air pollution control equipment and monitoring equipment, in a manner consistent with safety and good air pollution control practices for minimizing emissions at least to the levels required by all relevant standards.
- Malfunctions shall be corrected as soon as practicable after their occurrence.
- Operation and maintenance requirements established pursuant to section 112 of the Clean Air Act are enforceable independent of emissions limitations or other requirements in relevant standards.
- Determination of whether operation and maintenance procedures are being used will be based on information available to the DEQ which may include, but is not limited to, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the source.

Monitoring

To demonstrate initial and continuous compliance with the applicable organic HAP emission limitations, Mohawk indicated in their application that the "compliant material option" and the "emission rate without add-on controls option" specified in the Textile MACT will be used. Therefore, all applicable monitoring requirements from the Textile MACT for these two compliance options have been included in the Title V permit. These requirements provide adequate monitoring to meet periodic monitoring requirements. As a result, no additional monitoring has been included in the Title V permit.

Recordkeeping

The permit contains all applicable recordkeeping requirements from the Textile MACT for the "compliant material option" and the "emission rate without add-on controls option", such as manufacturer's formulation data or test data for each material used and calculations, to demonstrate compliance with the applicable organic HAP emission limitations. No additional recordkeeping has been included in the Title V permit.

Reporting

The Textile MACT requires the facility to submit a Notification of Compliance Status for the initial compliance period that applies to each affected source. Additionally, the Textile MACT requires the submittal of semiannual compliance reports for each affected source. These reporting requirements have been included in the Title V permit. The semiannual compliance reports will be submitted concurrently with the reporting requirements contained in General Condition XI.C.3 of the Title V permit.

Streamlined Requirements

The initial notification requirement associated with the Textile MACT has not been included in the permit because the source has already completed the requirement.

Facility Wide Conditions - Hazardous Air Pollutants (HAP)

As of September 1, 2007, Mohawk accepted limits on HAP emissions to below major source thresholds. The following limitations, monitoring, recordkeeping and reporting requirements apply to the facility:

Limitations

The facility is currently considered a major source because it has the potential to emit, in the aggregate, 10 tons per year or more of any HAP or 25 tons per year or more of any combination

of HAPs. Additionally, on an individual emission unit basis, the Erie City VC boiler (B7) has the potential to emit more than 10 tons per year of hydrogen chloride (HCl). As a result, the facility has voluntarily requested federally enforceable limits on its facility-wide emissions of HAPs to below major-source thresholds in order to be classified as a minor source of HAPs and avoid being subject to 40 CFR 63, Subpart DDDDD - National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers and Process Heaters (Boiler MACT), upon promulgation. This will also require federally enforceable limits on the Erie City VC boiler (B7). The following conditions were established pursuant to 9 VAC 5-80-110 and the State Operating Permit approved on 12/2/2009 in order to limit the facility-wide HAP emissions to below major-source thresholds (i.e., synthetic minor HAP limits). The condition numbers refer to the draft Title V permit.

Condition VIII.A.1: The Erie City VC boiler (B7) shall consume no more than 18,420 tons of coal per year, calculated monthly as the sum of each consecutive 12-month period.

Condition VIII.A.2: The maximum chlorine content of the coal to be burned in the Erie City VC boiler (B7) shall not exceed 0.030 percent by weight per shipment as determined by ASTM Method D-2361.

Condition VIII.A.3: HAP emissions, as defined by §112(b) of the Clean Air Act, from the facility shall not exceed 9.9 tons per year of any individual HAP or 24.9 tons per year of any combination, calculated monthly as the sum of each consecutive 12-month period. HAPs which are not accompanied by a specific CAS number shall be calculated as the sum of all compounds containing the named chemical when determining compliance with the individual HAP emissions limitation of 9.9 tons per year.

Monitoring and Recordkeeping

The HCl emission limit for the facility will be 9.9 tons per year. Based on the annual coal throughput limit, assuming all of the chlorine in the coal is emitted as HCl and using the molar weight ratio for hydrogen chloride to chlorine, potential HCl emissions from the Erie City VC boiler (B7) are shown in the following table:

Table VI. Erie City VC Boiler HCl Emissions

Fuel Type	Maximum Annual Throughput (tons/yr)	Maximum Chlorine Content (% wt)	Molar Weight Ratio (HCl/Cl)	Calculated Emissions of HCl (tons/yr)	Maximum AllowableEmissions of HCl (tons/yr)
Coal	18,420	0.030	1.028	5.68	9.9

As shown in the table above, the maximum expected HCl emissions are less than the allowable limit. Therefore, there is reasonable assurance that the HCl emission limit of 9.9 tons per year will not be violated as long as the coal throughput limit and chlorine content limit for the coal are not exceeded and the boiler is operating properly. For the coal, the permittee is required to obtain a certification from the fuel supplier with each shipment. In addition to the information currently required for each fuel supplier certification (name of the fuel supplier, the date the coal was received, the weight of coal delivered in the shipment, the higher heating value of the coal, the sulfur content (in percent) of the coal and the ash content (in percent) of the coal), the certification must include the chlorine content (in percent) of the coal and the method used to determine the chlorine content of the coal.

The permit includes requirements for maintaining records of all monitoring required by the permit to determine compliance with the individual and total HAP emission limits. These records include:

- The monthly and annual throughput of coal (in tons) for the Erie City VC boiler (B7). The annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- Monthly and annual throughput of each HAP-containing material used at the facility. This includes, but is not limited to, materials used in all manufacturing processes, fuel burning equipment and miscellaneous sources such as insignificant emission units and maintenance, repair, and construction activities (coatings, adhesives, lubricants, etc.). Annual throughput shall be calculated monthly as the sum of each consecutive 12-month period.
- Monthly and annual individual and total HAP emissions from the facility. This includes, but is not limited to, materials used in all manufacturing processes, fuel burning equipment and miscellaneous sources such as insignificant emission units and maintenance, repair, and construction activities (coatings, adhesives, lubricants, etc.).from all manufacturing processes, including fuel burning equipment. Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period.
- Material Safety Data Sheets (MSDS) or other vendor information showing HAP content for each material used at the facility.
- All coal fuel supplier certifications.

These records, in conjunction with the recordkeeping requirements from the Textile MACT, provide reasonable assurance of compliance with the emission limits of 9.9 tons per year of any individual HAP and 24.9 tons per year of any combination.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cites the Articles that follow:

Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Operating Permits for Stationary Sources

F. Failure/Malfunction Reporting

Section 9 VAC 5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9 VAC 5-80-250 of the Title V regulations also requires malfunction reporting; however, reporting is required within two days. Section 9 VAC 5-20-180 is from the general regulations. All affected facilities are subject to section 9 VAC 5-20-180 including Title V facilities. Section 9 VAC 5-80-250 is from the Title V regulations. Title V facilities are subject to both sections. A facility may make a single report that meets the requirements of 9 VAC 5-20-180 and 9 VAC 5-80-250. The report must be made within four daytime business hours of discovery of the malfunction.

This general condition cites the sections that follow:

9 VAC 5-40-40. Emissions Monitoring Procedures for Existing Sources
9 VAC 5-40-50. Notification, Records and Reporting
9 VAC 5-50-50. Notification, Records and Reporting

J. Permit Modification

This general condition cites the sections that follow:

9 VAC 5-80-50. Applicability, Federal Operating Permit For Stationary Sources
9 VAC 5-80-190. Changes to Permits.
9 VAC 5-80-260. Enforcement.
9 VAC 5-80-1100. Applicability, Permits for New and Modified Stationary Sources
9 VAC 5-80-1605. Applicability, Permits for Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas
9 VAC 5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in sections 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
9 VAC 5-80-110. Permit Content

Y. Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follow:

40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9 VAC 5-60-70. Designated Emissions Standards
9 VAC 5-80-110 Permit Content

FUTURE APPLICABLE REQUIREMENTS

There were no future applicable requirements identified by the facility.

INAPPLICABLE REQUIREMENTS

Greenhouse Gas

The provisions of 40 CFR Part 98 – Mandatory Greenhouse Gas Reporting require owners and operators of general stationary fuel combustion sources that emit 25,000 metric tons CO_{2e} or more per year in combined emissions from such units, to report greenhouse gas (GHG) emissions, annually. The definition of "applicable requirement" in 40 CFR 70.2 and 71.2 does not include requirements such as those included in Part 98, promulgated under Clean Air Act (CAA) section 114(a)(1) and 208. Therefore, the requirements of 40 CFR Part 98 are not applicable under the Title V permitting program.

As a result of several EPA actions regarding GHG under the CAA, emissions of GHG must be addressed for a Title V permit renewed after January 1, 2011. The current state minor NSR permits for the facility contain no GHG-specific applicable requirements and there have been no modifications at the facility requiring a PSD permit. Therefore, there are no applicable requirements for the facility specific to GHG.

Opacity Exclusion

The startup, shut down, and malfunction opacity exclusion listed in 9 VAC 5-40-20 A.4 cannot be included in any Title V permit. This portion of the regulation is not part of the federally approved state implementation plan. The opacity standard applies to existing sources at all times including startup, shutdown, and malfunction. Opacity exceedances during malfunction can be affirmatively defended provided all requirements of the affirmative defense section of this permit are met. Opacity exceedances during startup and shut down will be reviewed with enforcement discretion using the requirements of 9 VAC 5-40-20 E, which state that "At all times, including periods of startup, shutdown, soot blowing and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions."

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
--	Storage Tanks	9 VAC 5-80-720 B	VOC	
Oil Tank 1	Fuel Oil Tank	9 VAC 5-80-720 B	VOC	
PVC1	PVC natural gas-fired Latex oven burners	9 VAC 5-80-720 C		4.08 Million Btu/hr
PVC1	PVC natural gas-fired oven burners	9 VAC 5-80-720 C		1.7 Million Btu/hr
LPCR-1	LPCR-1 natural gas-fired Tile Line singer	9 VAC 5-80-720 C		0.7 Million Btu/hr
FP	Diesel Fire Pump	9 VAC 5-80-720 B	VOC, PM-10, NO_X, SO_2, CO	
AshS	Ash Silo	9 VAC 5-80-720 B	PM-10	
CT	Cooling Towers (3)	9 VAC 5-80-720 B	VOC, PM-10	

[1]The citation criteria for insignificant activities are as follows:
9 VAC 5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application
9 VAC 5-80-720 B - Insignificant due to emission levels
9 VAC 5-80-720 C - Insignificant due to size or production rate

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portion of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit was placed on public notice in the Rockbridge Weekly. The 30-day comment period will begin on April 12, 2012 and ended on May 11, 2012. The 45-day concurrent EPA comment period ended on May 29, 2012. There were no comments received.

ATTACHMENTS

A – 2011 Emissions Inventory Report
B – 1978 Erie City VC coal-fired boiler permit
C – State operating permit dated December 2, 2009, as amended March 19, 2012, limiting SO_2 emissions from Boilers B5, B6, and B7
D – Zurn multicyclones CAM plan
E – Minor NSR permit dated August 1, 2007 for #1 Ilma Dye Line (YD1)
F – Minor NSR permit dated September 4, 2007 for #2 Ilma Dye Line (YD2)
G – Minor NSR permit dated July 10, 1986, as amended June 29, 2006 and August 6, 2007 for Batch Yarn Dyeing Operations (YD)
H – Minor NSR permit dated July 1, 2008, as amended October 22, 2009 for Superba Dye Lines (SL1 – SL6)
I – Minor NSR permit dated July 30, 2009 for the calcium carbonate storage silo (VAES
J – Minor NSR permit dated July 13, 2011 for the PVC carpet backing line (PVC1)
K – Minor NSR permit dated March 24, 2011 for the Latex Pre-coat Range (LPCR-1)
L – Minor NSR permit dated August 12, 2002, as amended June 29, 2006, for the Hot Melt Sample Line (HMS)
M – Minor NSR permit dated March 27, 2006 for the Extruded Coat Backing Line (EC)
N – Minor NSR permit dated April 28, 2006 for the Tile Extrusion Line (TE1)